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**PATENT ABSTRACTS OF JAPAN**(21) Application number: **09353173**(51) Intl. Cl.: **H01L 23/02 C04B 37/02 H01L 23/04**(22) Application date: **22.12.97**

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states:(71) Applicant: **SUMITOMO METAL MINING CO  
LTD**(72) Inventor: **MORI NOBUMOTO**

(74) Representative:

**(54) HERMETIC SEAL  
COVER AND ITS  
MANUFACTURE**

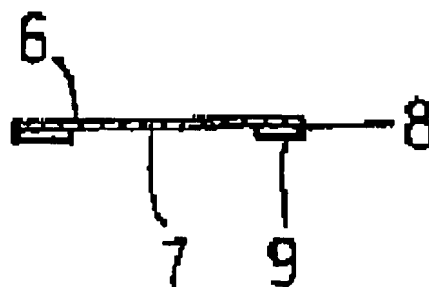
(57) Abstract:

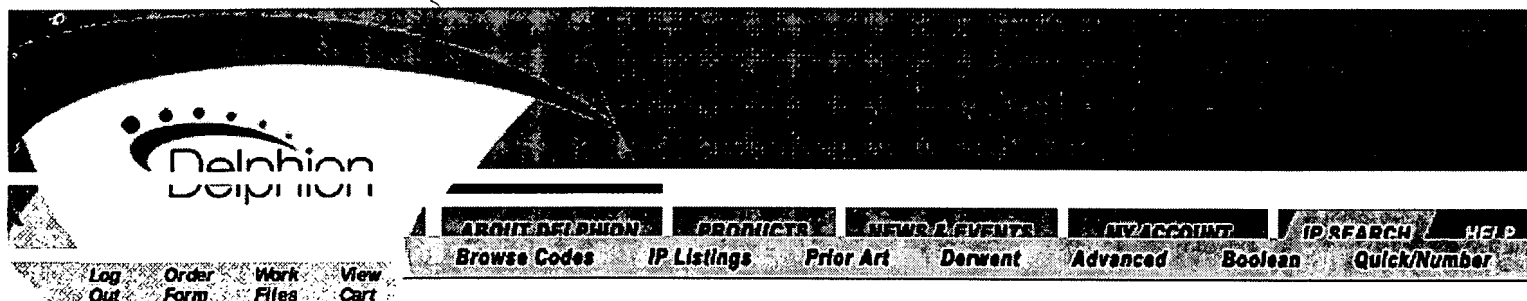
**PROBLEM TO BE SOLVED:** To implement a highly reliable hermetic seal by providing a brazing filler metal layer on a gold-plating layer on a member of a desired shape, a metal layer which has a predetermined thickness and is hard to oxidize on the brazing filler metal layer, and eliminating an oxide from the interface between the brazing filler metal layer and the metal layer.

**SOLUTION:** A seal cover 6 is manufactured by forming a gold-plating layer 7 on the surface of a ceramic member by barrel plating, and then by forming a gold-tin alloy brazing filler metal layer 8 while bonding the alloy by thermocompression in desired positions on one surface of the layer 7. Then, an oxide film on the gold-tin brazing filler metal surface is removed in a pre-plating process step, and a gold-plating film 9 whose thickness range from 0.01 to 1.0  $\mu\text{m}$  is formed on the gold-tin brazing

filler metal surface using a commercially available gold plating solution. The seal cover 6 for hermetically sealing an object has a metal-plating film that is hard to oxidize, i.e., the film 9 formed on the surface from which the oxide film of the brazing filler metal member has been removed. Therefore, no voids are produced when the object is hermetically sealed, and thus the object can be sealed reliably.

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Title: **JP11186423A2: HERMETIC SEAL COVER AND ITS MANUFACTURE**  
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Country: **JP Japan**  
 Kind: **A**

Inventor(s): **MORI NOBUMOTO**

Applicant/Assignee: **SUMITOMO METAL MINING CO LTD**  
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Priority Number(s): **Dec. 22, 1997 JP19971997353173**

Abstract:



**Problem to be solved:** To implement a highly reliable hermetic seal by providing a brazing filler metal layer on a gold-plating layer on a member of a desired shape, a metal layer which has a predetermined thickness and is hard to oxidize on the brazing filler metal layer, and eliminating an oxide form the interface between the brazing filler metal layer and the metal layer.

**Solution:** A seal cover 6 is manufactured by forming a gold-plating layer 7 on the surface of a ceramic member by barrel plating, and then by forming a gold-tin alloy brazing filler metal layer 8 while bonding the alloy by thermocompression in desired positions on one surface of the layer 7. Then, an oxide film on the gold-tin brazing filler metal surface is removed in a pre-plating process step, and a gold-plating film 9 whose thickness range from 0.01 to 1.0  $\mu\text{m}$  is formed on the gold-tin brazing filler metal surface using a commercially available gold plating solution. The seal cover 6 for hermetically sealing an object has a metal-plating film that is hard to oxidize, i.e., the film 9 formed on the surface from which the oxide film of the brazing filler metal member has been removed.

Therefore, no voids are produced when the object is hermetically sealed, and thus the object can be sealed reliably.

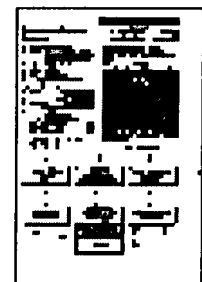
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Foreign References: **No patents reference this one**



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